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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,462	04/02/2001	Setsuo Nakajima	740756-2284	8966

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EXAMINER

NGUYEN, JOSEPH H

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,462

Applicant(s)

NAKAJIMA ET AL.

Examiner

Joseph Nguyen

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-24 and 26-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 22-24 and 26-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/17/2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-24, 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang et al (US 6040589).

Regarding claim 22, Zhang et al discloses on figures 3-5 a semiconductor device comprising at least one thin film transistor comprising an active layer 309 over an insulating surface 302; a gate insulating film 304 over the active layer; and a gate electrode 305 over the gate insulating film, a first insulating film 311 over the thin film transistor; first and second wirings 317, 318 connected to the active region through contact holes in the first insulating film, a second insulating film 319 over the first insulating film; wherein a part of an edge portion of at least one of the first and second wirings is aligned with at least one edge portion of the active layer, wherein the gate insulating film is in contact with the first and second wirings and not in contact with the at least one edge portion of the active layer; and wherein the second insulating film 319 is in contact with the insulating surface 302.

Regarding claim 23, Zhang et al discloses on figures 3-5 a semiconductor device comprising at least one thin film transistor comprising an active layer 309 over an

Art Unit: 2815

insulating surface 302; a gate insulating film 304 over the active layer; and a gate electrode 305 over the gate insulating film, a first insulating film 311 over the thin film transistor; first and second wirings 317, 318 connected to the active region through contact holes in the first insulating film, a second insulating film 319 over the first insulating film; wherein a part of an edge portion of one of the first and second wirings is aligned with at least one edge portion of the active layer, wherein the gate insulating film is in contact with the first and second wirings and not in contact with the one edge portion of the active layer; and wherein the second insulating film 319 is in contact with the insulating surface 302.

Regarding claim 24, Zhang et al discloses on figures 3-5 a semiconductor device comprising at least one thin film transistor comprising an active layer 309 over an insulating surface 302; a gate insulating film 304 over the active layer; and a gate electrode 305 over the gate insulating film, a first insulating film 311 over the thin film transistor; first and second wirings 317, 318 connected to the active region through contact holes in the first insulating film, a second insulating film 319 over the first insulating film; wherein a part of an edge portion of the first wiring is aligned with one of edge portions of the active layer, and a part of an edge portion of the second wiring is aligned with another one of the edge portions of the active layer, wherein the gate insulating film is in contact with the first and second wirings and not in contact with the at least one edge portion of the active layer; and wherein the second insulating film 319 is in contact with the insulating surface 302.

Art Unit: 2815

Regarding claim 26, Zhang et al discloses on figure 11E the semiconductor device is a device selected from the group consisting of a portable telephone, a video camera, a mobile computer, a goggle type display, a rear projector and a front projector.

Regarding claim 27, Zhang et al discloses on figure 11E the semiconductor device is a device selected from the group consisting of a portable telephone, a video camera, a mobile computer, a goggle type display, a rear projector and a front projector.

Regarding claim 28, Zhang et al discloses on figure 11E the semiconductor device is a device selected from the group consisting of a portable telephone, a video camera, a mobile computer, a goggle type display, a rear projector and a front projector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al as applied to claims 22-24 above, and further in view of Yamazaki.

Regarding claims 29-31, Zhang et al discloses on figures 3-5 substantially all the structures set forth in the claimed invention except the second insulting film comprising a material selected from the group consisting of silicon oxide. However, Yamazaki discloses on figures 5 the second insulting film 523 comprising a material selected from the group consisting of silicon oxide (col. 8, lines 53-54). In view of such teaching, it

Art Unit: 2815

would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang et al by having the second insulting film comprising a material selected from the group consisting of silicon oxide for the purpose of preventing moisture and impurities from infiltrating as taught by Yamazaki (col. 1, lines 34-37).

Claims 32-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al in view of Yamazaki.

Regarding claims 32-34, Zhang et al discloses on figures 3-5 substantially all the structures set forth in the claimed invention except at least one p channel thin film transistor and at least one n channel thin film transistor. However, Yamazaki discloses on figures 5 at least one p channel thin film transistor and at least one n channel thin film transistor. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang et al by having at least one p channel thin film transistor and at least one n channel thin film transistor for the purpose of efficiently and economically forming the two thin film transistors on the same substrate.

Regarding claims 35-40, Zhang et al and Yamazaki together disclose all the structures set forth in the claimed invention.

Response to Arguments

Applicant's arguments with respect to claims 22-24, 26-40 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2815


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN
February 28, 2004



**JEROME JACKSON
PRIMARY EXAMINER**